

# APPENDIX A

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## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## LISTING OF CLAIMS:

1-10. (Canceled)

11. (Currently Amended) A component of semiconductor processing equipment, the component comprising an aluminum substrate having an anodized surface and a plasma sprayed ceramic layer of cerium oxide containing ceramic material on the anodized surface of the substrate and forming an outermost surface of the component, wherein the cerium oxide containing ceramic material (a) consists essentially of one or more cerium oxides or (b) consists essentially of one or more cerium oxides as the single largest constituent thereof and an oxide of an element of the lanthanide series.

12-14. (Canceled)

15. (Previously Presented) The component according to Claim 11, wherein the ceramic layer has a thickness in a range from about 0.001 to 0.050 inches.

16. (Original) The component according to Claim 11, wherein the component comprises a part exposed to a plasma environment or a part exposed to bias voltages associated with a plasma environment.

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17. (Cancelled)

18. (Currently Amended) A component of semiconductor processing equipment, the component having a cerium oxide containing ceramic material forming an outermost surface of the component, the component being selected from the group consisting of a plasma chamber wall, a chamber liner, a gas distribution plate, a gas ring, a pedestal, a dielectric window, an electrostatic chuck, and a focus ring, and the cerium oxide containing ceramic material comprising one or more cerium oxides as the single largest constituent thereof, wherein ~~(a) the component is a bulk part consisting essentially of the cerium oxide containing ceramic material or~~ (b) the cerium oxide containing ceramic material is a ceramic layer on a ceramic substrate selected from the group consisting of alumina, silicon carbide, silicon nitride, boron carbide and boron nitride.

19. (Original) The component according to Claim 11, wherein the cerium oxide comprises Ce(III) oxide and/or Ce(IV) oxide.

20-23. (Canceled)

24. (Previously Presented) The component according to Claim 11, wherein the component is selected from the group consisting of a plasma chamber wall, a chamber liner, a gas distribution plate, a gas ring, a pedestal, a dielectric window, an electrostatic chuck and a focus ring.

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25-26. (Cancelled)

27. (Currently Amended) The component according to Claim 18, wherein the cerium oxide containing ceramic material comprises a plasma sprayed ceramic layer ~~directly on a plasma sprayed layer formed on the substrate.~~

28-29. (Cancelled)

30. (Previously Presented) The component according to Claim 18, wherein the ceramic layer has a thickness in a range of from about 0.001 to 0.050 inches.

31. (Previously Presented) The component according to Claim 18, wherein the component comprises a part exposed to a plasma environment or a part exposed to bias voltages associated with a plasma environment.

32. (Previously Presented) The component according to Claim 18, wherein the cerium oxide comprises Ce(III) oxide and/or Ce(IV) oxide.

33-36. (Cancelled)

37. (Previously Presented) The component according to Claim 11, wherein the cerium oxide containing ceramic material consists essentially of (i) one

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or more cerium oxides as the single largest constituent thereof and (ii) an oxide of an element of the lanthanide series.

38. (Currently Amended) The component according to Claim 11, wherein the ~~aluminum substrate includes a roughened surface that has been roughened by grit blasting, and the plasma sprayed ceramic layer is mechanically interlocked with the roughened~~ anodized surface.

39. (Previously Presented) The component according to Claim 11, wherein the component is a component of a polysilicon high-density plasma etch chamber or a dielectric material etch chamber.

40. (Currently Amended) ~~The component according to Claim 11, including a first intermediate layer, the ceramic layer being (i) on the first intermediate layer or (ii) on an optional second intermediate layer disposed on the first intermediate layer, the first intermediate layer and the optional second intermediate layer being of the same or a different material selected from the group consisting of refractory metals,  $\text{Al}_2\text{O}_3$ ,  $\text{SiC}$ ,  $\text{Si}_3\text{N}_4$ , boron carbide,  $\text{AlN}$ ,  $\text{TiO}_2$ , and polymers.~~

A component of semiconductor processing equipment, the component comprising:

an aluminum substrate;

a plasma sprayed ceramic layer of cerium oxide containing ceramic material which forms an outermost surface of the component, the cerium oxide containing ceramic material (a) consists essentially of one or more cerium oxides or (b) consists

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essentially of one or more cerium oxides as the single largest constituent thereof and an oxide of an element of the lanthanide series; and

wherein the ceramic layer is (i) on a first intermediate layer or (ii) on an optional second intermediate layer disposed on the first intermediate layer, the first intermediate layer and the optional second intermediate layer are of the same or a different material selected from the group consisting of refractory metals,  $\text{Al}_2\text{O}_3$ ,  $\text{SiC}$ ,  $\text{Si}_3\text{N}_4$ , boron carbide,  $\text{AlN}$ ,  $\text{TiO}_2$  and polymers.

41. (Currently Amended) The component according to Claim 40, wherein the first intermediate layer includes a roughened surface ~~that has been roughened by grit blasting~~, and the plasma sprayed ceramic layer is a plasma-sprayed layer mechanically interlocked with the roughened surface of the first intermediate layer.

42. (Cancelled)

43. (Previously Presented) The component according to Claim 18, wherein the cerium oxide containing ceramic material consists essentially of (i) one or more cerium oxides as the single largest constituent thereof and (ii) an oxide of an element of the lanthanide series.

44. (Previously Presented) The component according to Claim 18, wherein the ceramic substrate includes a roughened surface, and the ceramic layer is a plasma sprayed layer mechanically interlocked with the roughened surface.

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45. (Previously Presented) The component according to Claim 18, wherein the component is a component of a polysilicon high-density plasma etch chamber or a dielectric material etch chamber.

46. (Previously Presented) ~~The component according to Claim 18, including a first intermediate layer, the ceramic layer being (i) on the first intermediate layer or (ii) on an optional second intermediate layer disposed on the first intermediate layer, the first intermediate layer and the optional second intermediate layer being of the same or a different material selected from the group consisting of refractory metals,  $\text{Al}_2\text{O}_3$ ,  $\text{SiC}$ ,  $\text{Si}_3\text{N}_4$ , boron carbide,  $\text{AlN}$ ,  $\text{TiO}_2$ , and polymers.~~

A component of semiconductor processing equipment selected from the group consisting of a plasma chamber wall, a chamber liner, a gas distribution plate, a gas ring, a pedestal, a dielectric window, an electrostatic chuck and a focus ring, the component comprising:

a cerium oxide containing ceramic material which is a ceramic layer forming an outermost surface of the component, the cerium oxide containing ceramic material comprises one or more cerium oxides as the single largest constituent thereof, and

wherein the ceramic layer is (i) on a first intermediate layer or (ii) on an optional second intermediate layer disposed on the first intermediate layer, the first intermediate layer and the optional second intermediate layer are of the same or a different material selected from the group consisting of refractory metals,  $\text{Al}_2\text{O}_3$ ,  $\text{SiC}$ ,  $\text{Si}_3\text{N}_4$ , boron carbide,  $\text{AlN}$ ,  $\text{TiO}_2$  and polymers.

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47. (Previously Presented) The component according to Claim 46, wherein the first intermediate layer includes a roughened surface, and the ceramic layer is a plasma sprayed layer interlocked with the roughed surface of the first intermediate layer.

48. (Cancelled)

49. (New) The component according to Claim 11, wherein the component is a plasma chamber wall.

50. (New) The component according to Claim 11, wherein the component is a chamber liner.

51. (New) The component according to Claim 11, wherein the component is a dielectric window.

52. (New) The component according to Claim 18, wherein the component is a plasma chamber wall.

53. (New) The component according to Claim 18, wherein the component is a chamber liner.

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54. (New) The component according to Claim 18, wherein the component is a dielectric window.

55. (New) The component according to Claim 40, wherein the component is a plasma chamber wall.

56. (New) The component according to Claim 40, wherein the component is a chamber liner.

57. (New) The component according to Claim 40, wherein the component is a dielectric window.